

00188US1.ST25.txt
SEQUENCE LISTING

<110> Benjamin, Christopher W.
Roberts, Steven L.
Karnovsky, Alla M.
Ruble, Cara L.

<120> Human Ion Channels

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<151> 2000-07-05

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 aagcagtggc ccctaacctc cccccaacc cgggctcgtc cccgggaggc ggggcccgct 240
 ctcaact 246

<210> 26
 <211> 439
 <212> DNA
 <213> Homo sapiens

<400> 26
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 gcagccgcgg ggacatggcg tgggtggtgg gcgtccgctg ggacacgttg agcacgatga 180
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 cggtaggca tgacatcacc ggtcctcctt ccagctaccg aaggcgccgc gcgctgacct 300
 cacaaacacg gcttctcctg gtacgggctg gttacgcctt ccagctgcgc cccctacacg 360
 acgacagacg cgtcccccaa cccttctaac tgtacctacc acttgtagcg gccatgaagg 420
 ggacccccag ctccctgga 439

<210> 27
 <211> 597
 <212> DNA
 <213> Homo sapiens

<400> 27
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 aaacatgctt tgtgttgttt gctgatgtat tgagtaatag aatgtcagat ggaagcaagt 120

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aaattatttt acaatgtatt ttaagcctta ctggaaaag taacaccaac aaatactatt 180
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atagaccagt attctcgaat tctcttccca gttgcatttg caggattcaa ccttgtgtac 540
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<210> 28
<211> 263
<212> DNA
<213> Homo sapiens

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<400> 28
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acgcgcgagg gaacacagcg cgggcgtaa tgtcaatggt gtctgcgtcc atgggcctga 180
gccgggcacg gatgcccccc tggcctctg agcggggtgc cccctccttc ttcgtctccc 240
ctgtctccac cccaccgac ctg 263

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<210> 29
<211> 401
<212> DNA
<213> Homo sapiens

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<400> 29
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ggtcttttac cttccttcgg actgtggtga aaaagtgacg ctttgtattt cagtctgtct 180
ttctctgact gtgtttttgc tggatcatcac ataaaccatc ccatccacat ctctggtggg 240
cccactggtg ggtgagtacc tgctgttcac catgatcttt ggcacactgg ccatcggtgt 300
gactgtgttt gagttgaaca tacactaccg caccccaacc acgcacacaa tgcccagggtg 360
ggtgaagaca gttttcctga agctgctgcc ccaggctctg c 401

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<210> 30
<211> 213
<212> DNA
<213> Homo sapiens

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<400> 30
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aagcgaggcg gtctgcaacg agtggaggtt ccccgctgt gtggtggacc gcctgtgcct 180

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catggccttc tctgtcttca ccatcatctg cac 213

<210> 31
 <211> 639
 <212> DNA
 <213> Homo sapiens

<400> 31
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 atagggtcaag aggacaatca aagaagctgc tgggatcaga agtcaaacag gggcccctgg 120
 actcacataa aacatgatct ggtcatatag gttgttgccc atggacatct ttgggggtggc 180
 cttgttgatg cccaagagct cccactcccc ctgggttttg atgactttgc gagacgtgtc 240
 tgtgatctcc cacacctcct tgtccatgcc cagcagcatg ctgtccactg gaagggaggc 300
 cggtcagttc attgcagacg ttttccaag cctcccgccc acgaaattgg agtcctcccc 360
 cactgagctt ctaaaccaaa ttttcctcta tccttttaaa gcagggtatc ctggttttct 420
 cagaagtggg ttacccgact agcaattcat atgtgtgtgg gcagcggcat taatttcttt 480
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 tgagtcaaga acttttggag tcattcctat tttccttctc agtccccag tcgtatggtg 600
 gtgttttagt ggaatcaagc ttgaatagct caatatttt 639

<210> 32
 <211> 685
 <212> DNA
 <213> Homo sapiens

<400> 32
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 gaaacacaaa agctctatct aagaaggaaa ccccatgtac acacttcttt ttaccacccg 120
 cagtcttcaa ctacacaata gcaatgtgtg tctccatata acttgtcttt tgatttgtct 180
 tgtcttttga tttgttcaat cattgcatgc ctctataata taaatattat attaccatgc 240
 cttctaaggt cattgatgaa agttatttta ttcacccctg catcttctat tcagggttttg 300
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 ctaaagatag ctaactaaag tcaaagaacc caagtaattc atttgagtac aactgttca 420
 gctggaaccc aaacagaaat ccaagtcttt attcttcaaa taccaccagt gcttttagagt 480
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 aaagccaacc gctttataaa atgctttgac ctactttttt gttttttata agcctccatt 600
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 aaataagata atacatgtca ggcat 685

<210> 33
 <211> 484
 <212> DNA
 <213> Homo sapiens

<400> 33
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 cttaggaaac actcatcacg gtcattcatg ccacgctttt gctcgttcat ttgcaggctg 120
 cttcctccct gtcactttct tcctcctccc aactgcgaaa cagccttttc atttcttaaa 180
 catttggtggc tccagaaggc aaatcggttt cttccctcct gcccttctgt ttggtattta 240
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 acgaaaggca gagggccaaa ggggaagggtg atgggttttac taaaaggctt tttttcttta 420
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 tgat 484

<210> 34
 <211> 449
 <212> DNA
 <213> Homo sapiens

<400> 34
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 tagaatctta gttcatagg tcatccatta gctgtatcca aaggcaacta caatcccatg 120
 agactccctg cagacctagc tgggtgttgt agaattgatc tggttattta taccactgag 180
 tatttgagac tgattgtcac atcactataa cctacttaca ctgtttgaaa cagacattgt 240
 caattcaaaa caacaatag aaaaccaaac aaaaaacaga tcagggaag aataaacaac 300
 aacaaagaga agatgatttg ctggtcaaaa cgggtggtga atagagattt tccactgaat 360
 atgagacaca tgaataagaa atgaagggtg gggagatagc aatgaaaata tttggggaaa 420
 gacagtccag actgaggaaa tagcctatg 449

<210> 35
 <211> 579
 <212> DNA
 <213> Homo sapiens

<400> 35
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 gcagggcagt gactgaagca caggaagcag tgacactcat cagccatcat caaatggaat 180
 aacataagcg gctgatcgaa actagctgga aggaaattgc agtcataata tctgtaagca 240
 tgttggtttt tttttttaat gttctgccct ttacacctat cattttatga acatttctct 300
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 tgggctatth ggtgtgtgtc ccgaatcctc aatcccgcca ttgcaatgaa aagcagccat 420
 aaatgagtga tcatggctgt gttccaataa aactttatct aagaaacaag tggcaggctg 480
 aaagtgtgta cccctagttt acatcattag atcttctata aaaatggcta taagatatct 540

caggctgtga atattttatg gtatatattca caaattctc 579

<210> 36
<211> 683
<212> DNA
<213> Homo sapiens

<400> 36
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tcaaaacagt aaagtaaaga gagactgttt agaagaaagt aagaagagaa aacaagtact 180
ctttgccttg taaatcagag aattcttcca gatcttggg aagaccatca aggcagtact 240
tccatgagtc tgcaagaaac cacagcatta gtgggcttag ggtgccccct aaagcagata 300
caacttagat cataacaccc aagtcctttt gaatatctga aaagccttcc caagaagaat 360
gggaacaaac aagcccagac tataaagact acaataaata cctaattatt caatgcctgg 420
gcacagacag acattttacaa gtatcaagat catccaggaa aacatgacct caccaaata 480
actaaataag gcaacagaga tcaatcctgg agaaacagag atatgtggcc tttcagacag 540
agaattcaaa attcagacag agaatttgaa gagtattttt gccagatata ctactctagg 600
ataaaagggtt tttttttttt ttcttcttca gcatgttaaa tatatcatgc cattctcttc 660
tggcttataa ggtttccact aaa 683

<210> 37
<211> 643
<212> DNA
<213> Homo sapiens

<400> 37
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caggaaaaga aaggacaga ggggaaatct gtggattatg agtttaaaag aaataaactt 180
caaaaattag caagtctaag ttacagtagc tagggattct ggtatgtggg aagcaatata 240
ggcaatggaa agcaagatat tacttgcaag tagacacata atttctgcta acattctatt 300
gacaaaacc aggtcacatg gccacatctg tccagctcca gctgaggcct gtgaatgtct 360
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agtagataat ggtgaatact tattagtctc tgccactccc ttaaaaatgg aatacacaaa 480
ctcgcaactgt gatttctaac ttacactgta cagcttctct gaattattct ggaacttaaa 540
tttgtgcttg tctttacttg ttattcagaa agtatctaga gcctctcttg attttcttta 600
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<210> 38
<211> 385
<212> DNA

<213> Homo sapiens

<400> 38

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tatgtagttt  tccaaaatat tctattttta aatgcactga ctttattttt atatcataga    120
tacatttata tataaagtat ttcaagatga atttgagaca aattgaagta acaaagcttg    180
atttccattc tgcatacaat attctctata attacaatgt aggttttggc cacttgTTTT    240
gactaacata gctatgccat catttaaata tctgtatgcc tttgttttct gttaaattaaa    300
attcagacat acaaagaaat ataaggagag ttaggagaac agtgataaaa gataaaatgg    360
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<210> 39

<211> 655

<212> DNA

<213> Homo sapiens

<400> 39

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tcaacctctc ctcaactact aactctaatt ctgttctcct gacatgttca taggtaacaa    120
aagagaaagc tctgttttgt cttccagtcc tatctgccgg aattccaaag agtgctccac    180
ttcgttatat aatgctgcta cataggtctc agaaatcttt tggttttgaa gagggaaaaa    240
tttgaaatta aatatagata aaactgaacc atattcagat caatatgatc ttagaaccta    300
tagatttttg cctgtattat ctacactgag actgaatagc atacatattt tgttcagtgg    360
gtattaatgg ttccatgatt ctaattttgc tcatttttct ggcatgtatt ggctacctgc    420
cctacttttg cagttgacca attttgctta taaagaccag gctgtaattg ggcccttggtc    480
ccatcatacc atacctaacc ccgctgtatc tgatattagg ttctctaaata aataaaaaata    540
aaactttact atttactcac taactctaaa aatgccttct cttctagttt actataccca    600
cacagagaaa aaccatagat attttataat atagttttaga tgctaagtgg caata       655

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<210> 40

<211> 663

<212> DNA

<213> Homo sapiens

<400> 40

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taccttctca aggaatcagt tctctccac tgattttggc agtggcagct caatgtgctc    180
tatgatecca gctcaaccga agacacctag ataagggtga acatctaacc caagagaaaag    240
gaatatatga acaacctgag ccaatcatcc catcctgagg agaggtccaa aagacatccc    300
ctgagggttat gtgcaattgt gggctacagc tgtaagaaca taagaagcac tagccagtc    360
ccaagagatg gagagaagcc cagtgaagct gtttatgctc aaagagagtg attttgagtt    420

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ctaaatttcc aactctagtc cttatgtggc caagctctta ttgctgaccc gtggatatgt 480
gagagattgc ctgcagtgct tgtgttttta tttgcaataa atttcttaag catgctagag 540
taggttcagt tccttggtac caactgctct ctcaccaagg cagactcttg gggagtata 600
atatcaacaa gtaaataattt attgtgtaaa tatataatga taactatttg gtgcctctgt 660
gtg 663

<210> 41
<211> 551
<212> DNA
<213> Homo sapiens

<400> 41
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catttggggg gtgctgacac accagcccc tgccacctca gccctctctg gactttgggc 480
aacaacaagc atgcgaggga ggccagggg ctgaggcagc ttggcacagg cctgtgggca 540
cccctcagca t 551

<210> 42
<211> 625
<212> DNA
<213> Homo sapiens

<400> 42
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agcccaagta gaggcttaga gcaagaaagg ccctagccca ttccatagac gtccacaaag 180
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aagatgactc ctccaggaag tccacaggat ccttagccct aaagaacctg gctgggggtgc 360
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agcacctgcc cgggcccgt gcgca 625

<210> 43
 <211> 465
 <212> DNA
 <213> Homo sapiens

<400> 43
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 tctggctctc ttatatgagg gctctcttgc tcttctgcct tccaccatgg gtagatgcag 420
 caagaagacc ctcaccacat atgggcccct cactcttatg cttcc 465

<210> 44
 <211> 546
 <212> DNA
 <213> Homo sapiens

<400> 44
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 atggta 546

<210> 45
 <211> 688
 <212> DNA
 <213> Homo sapiens

<400> 45
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 gctatggaac caaataaccc agaaattaaa agcttcactg tagctgtcct tttccccatt 540
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<210> 46
 <211> 663
 <212> DNA
 <213> Homo sapiens

<400> 46
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 tct 663

<210> 47
 <211> 703
 <212> DNA
 <213> Homo sapiens

<400> 47
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 aggtatctga ctctggccat tatgctcttt ctactgtgcc cta 703

<210> 48
 <211> 682
 <212> DNA
 <213> Homo sapiens

<400> 48
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 agtgaacggg tctgcctccc tggcattcca ggcaccactg aggtttgaaa aaaaaaaaaa 300
 tctcctgcag ctagctcggc atctgccc aa atggctgccc agttttgtgc ttgaaatcta 360
 ggtccctggg ggtgtaggca cctgagggaa tctgctggtc tgtgggttgt gaagaccatg 420
 ggaaaagggt agtatctggg ctggaatgca ctgttcctca tggcagagtc cctcagggct 480
 tcttttggct aggggaggga gttccctgac cccttgccct tcccagggga catggcactc 540
 caccctgctt ccacttgccc tctgtgggct gcaccctagc tctaaccagt cccaatgaga 600
 tgagctgggt acctcagttg gaaatgcaga agtcattcac cttctgcatt gatcttgttg 660
 ggagctgcaa agtggagctg tt 682

<210> 49
 <211> 633
 <212> DNA
 <213> Homo sapiens

<400> 49
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 ggatttggct cacctgtgac aaaggaaatg cgaggaggta acaaggcact gcaagaagga 120
 agcatagtac aaggattctg aatcactttg ttcaaaattg gatataagat aaataacagt 180
 attttaagat gtttgctaaa aatcaagtaa atgcaaacag aataattgat gagatgccat 240
 tatcactttc aaaatggcat cgattaaaaa aataagcact cagaagggtg gtgagtgggc 300
 aacagaaggg acgtgtgccc accccacagc gggatgttga gttagcccct ggcttttagaa 360
 ggcagttagc agggagccgc agaggaggca tgtgtgcaga gctacgtctc ggatctagtc 420
 tgcgggcatt accagagatg tgtccagaga gttctacaga gagctgtctg ttacatgagg 480
 gaaactatga tgtgaagttt ttaaaagtcc aaaaataaga agtggatcag ataaataatg 540
 gcacatctga gtcgtataaa ctatgaaatc accaaagtct tgtttaataa aactaatacc 600
 tgggggtaaa gcaacttata agacaatagg cct 633

<210> 50
 <211> 446
 <212> DNA
 <213> Homo sapiens

<400> 50
 tctcccttct ccctcaaacc ggatccagcc ctctgcacc ccggcctgtg tgcagccgca 60
 gggagaggag taagccagcc tctcgcgtgc ggtgctctct gcatagggtt agtggtggg 120
 accaacacgc gagctggcgc tttccgtgcg agcccagcat caggcggagg cccagggcca 180
 accggactct gaacaaaggg agccgacaaa tgagaaagca aaggtacctc agagactacg 240
 aagcccttca gatggaaatg gtcactctcc aacagcctct ctggacctct gcctgcaagc 300
 ccggcccaca catcttggac ccaggctgga gacacagaca gccagggtgg gatgcccacg 360
 cgcagctcca agaccccgga gagcctccgc caggccggaa cctgcgccag gcttctctgg 420
 aaccttctct ccaggacgct cttctg 446

<210> 51
 <211> 638
 <212> DNA
 <213> Homo sapiens

<400> 51
 taatttctccc atttatccat tcaataagtt gtcactgaca tctacataat gacaggacag 60
 gcgtggctcc agggagctta gggcaagtg ggtctgacct gaaaatctac ataaactctg 120
 tcttctactc cataatatat tgatgcttct tttaataata aatttttctt tctccatcca 180
 ttgcaaata aaattagtc cccaggaaga taagtcagac ttctctgtgg cttctcaagt 240
 gccagctggg catgagcatc tcagactgag acgcctggac aacctcctgt tcaaagtggg 300
 ctttgtcata gaattggagc accctgaggg caggatgaca cccatctgga gtaagggact 360
 ccagcatgac caccacaat ggcagatgtg cctacctggc aaccacgccc atcccacccc 420
 acactgcttc tctgcccaca cagcccaat ctgttcagac agccagtgga ggtaggacca 480
 tctcctgcct cggggcatga atcattgctg ggctggggca gtcaaacagc ctcacctgcc 540
 ctggctgact ctggccaatg agatggaagg ggaagtggc ttgggagcag gtgggaatat 600
 cctctcaaac aaagagcttt cagctcctcc tcccttgc 638

<210> 52
 <211> 707
 <212> DNA
 <213> Homo sapiens

<400> 52
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 ccttaaaagc ataagcagag ttatttttaa tgtaagtgcc ctcccccttt tgtaatgcca 120
 ggggcagagt atttccaaa tgccttatac acttactttc agcactaaat gtatttgtgc 180
 aaatcccatg aatcatcaag gcttttgaaa atatttatag ggagagaaac tcaacccttt 240

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tcattagagt gagtaaaact cacactggta tcttgctatt gtttaaggag aacaatggat 300
gggtggatga aagagaatgt cagctggatc aacaaacagc tgttccaaca gaagtcctgc 360
tatcctatac aataaagcag tattaattgc tgccttccct ggagtctcta aagatactcg 420
gtaagtgtac agtaccctga tgaactaaag ccaaaagtta gggctgattt cgggcttcat 480
cacagtgaac acctcacctc cagagagaaa gttgtaggcc tttaaagctt ttgatctcag 540
agaagactcc accgcctttc aaggcaataa attcttgcct cttctccaaa tactctaact 600
gaaacttctg ctgttgagcgt ataattcaat gtgttttttt ccagacttca atgaaagcaa 660
gaattctcat tctgcatgta attatatccc ttataatacc cacagcc 707

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<210> 53
<211> 654
<212> DNA
<213> Homo sapiens

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<400> 53
tatgagtgat gcaaatatca caaatactgg tggcaccaaa acgatgattt ttctgaaatc 60
tgaaataaac ttggtaaaaat ttcatttgaa acaaaagtct ctttcaatt tattaagtac 120
agcgagtgtc cacctaaggt cttggaaatg gcaacttta gtaaaataat gtatattaaa 180
accaattttc ccataagcta attgatctaa acaagagtta tgcttttatg gcatatttct 240
ggtcacaaaa acatcaccaa acttctaaag aaagaccaa atatttctga tattaacat 300
ttaaagaaat gtgagctata cgtacattta agaaaggta ataaaaacaa gtcagataat 360
tatttaccba attattccag ttcaggatac tgggtagcca aagcttatct gggcagctta 420
ggatgcaagg aaggaactca ccttgaacag gaaaccaatt ccatcacagg gcacattcac 480
acacagaccc aactcactt cagaccagga aaattttaa accaattcac ctactatgca 540
catctttgga atgtgggatg aagccagcgt acctggagaa aaccaggaa gacatgggga 600
gaatgggcaa actccacaca gacagaggcc ctagtgaagt atcattatta ttct 654

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<210> 54
<211> 775
<212> DNA
<213> Homo sapiens

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<400> 54
cccaatatgg atgcaagggt cactgattac tttagggtcc ttatgttgca aggagtctag 60
gaaaaacttc aatttttttt ttttacagca acgtgattct ctttgtggtg tctactaaaa 120
taagaaagtt acagtgagat ttcttcagtg ttctgatggc tttctgcctc tcctctgacc 180
agcgtgagcc actccttcat ctctgcctct cactttctgc ttgacagtca aggctcgct 240
tgaacctccc tcttcagaaa gcctttctga cctgcctcct caggagtgtt tgtttgggt 300
atgtgaccac aatctgcact atactaatta gctatgattt ttatggggct ggaggaactt 360
ctaaggcagc agccgcgtcg ggttcttctg tctccttccc agggcttct cagggttag 420

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tacagggcat gtgctaagca ttccttagcc ccttcctttg cccttgtttg ttctttctaa 480
 tcagattctg tgggggaagt tcattgtcac aatgtccaat gtttagcatt caaaggctgc 540
 atgaggtaga tcaggtaaac atacctctct ggctgtacca aaatgggggg gtttggcata 600
 tccgccacct gaaagcagct ggaccctgcg tggatctggg tttgtatgct gtgagtaatg 660
 ctgtctgcat cttcgaatct ttcactgtaa gaaacaaaag tctgacagcc tctgaatccc 720
 gccctccttc ctgatacact gtgacaatgt gtttatagta ccctgttgat gctga 775

<210> 55
 <211> 224
 <212> DNA
 <213> Homo sapiens

<400> 55
 aaaaaaaaaa aaaaaaaggt gactgatatt accaaatagc ctccatgatg taccaattta 60
 cactgcttat aggtttgtct gttttcttga tattatacac tctgtcttac agactcacag 120
 caacatgtct tggaattcca cttatgtcaa tatacataga tctaccttat taaaaaaaaa 180
 aaacatgccg ggcatagggg cttacacctg taatcccagc actt 224

<210> 56
 <211> 465
 <212> DNA
 <213> Homo sapiens

<400> 56
 caccatcctc cagaccccag aatggtagat ccatccaagc ttgcacctg cacctgggaa 60
 aagccatagg aactcaaca tcagccatga aggcagcccg gaagggggct atgccctgca 120
 aagccacagg ggaggagcta cccaaggcca tgggagccca cctcttgcat cagtgtgacc 180
 tggacgtgaa acatggagtc caaggagatc attttgagc ttttaagattt ggctgctcca 240
 ctggatttca gatttgcatt gggcctgtag cctctttgtt ttggctaatt tctcctattt 300
 ggaatggttg tatttcccca atgcctgtac tcccattgta tctaggaagt ataataagta 360
 cgtgcttttg attgtaaagg cttataggca aaagggaact gccttgctc agatgagact 420
 ttgaactcag actgttgagt taatgctgga atgagttaag atttt 465

<210> 57
 <211> 621
 <212> DNA
 <213> Homo sapiens

<400> 57
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 accagcctgc aatggcgagg cgggggcctt tggtttagca cagaggtgag agtggtcggc 120
 ccactctgag gggcagcggg acctatgtcc tcccctttcc tcccactgca gactcccagg 180
 gcctggagat ggtgactgga acaaatgaca catttcagcc acacaaggag gcctctgtga 240
 ggccgcttct tccagcagaa gctcctgtgg atgtgcatgt gtcagaacaa acccagccca 300

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ggaccgaatg gatttgggtt atttgctttt caattctggc cccattctgt gggaggccat 360
ctgtgatgag gcagggaaaa gcagacagag aaaggggatc catgctcttg catccagccc 420
ttccaagaaa attctatgag agcagcacct gaaccgcaag gcccgttgg gacagcagat 480
tgtatttttag gattttaacc acaaatcatc tctcctgact tctcattctc tgcctcgcaa 540
catttctttc tcatttcttc cacctagaat ctctctatct ctacttgacc tttgcttttg 600
gatgtggcca ctcaaacctt t 621

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<210> 58
<211> 24
<212> PRT
<213> Homo sapiens

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<400> 58
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Trp Asn Leu Glu Asp Asn Gly Gly Ile Asn Ala Phe Lys Ile Pro Ser
1          5          10          15

```

```

Glu Asn Tyr Phe Gln Pro Arg Ile
20

```

```

<210> 59
<211> 27
<212> PRT
<213> Homo sapiens

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<400> 59
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Pro Ala Thr Ser Ser Ser Gln Leu Ile Ser Ile Glu Thr Glu Leu Ser
1          5          10          15

```

```

Leu Ala Gln Cys Ile Ser Val Val Ser Ala Glu
20          25

```

```

<210> 60
<211> 63
<212> PRT
<213> Homo sapiens

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<400> 60
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```

Thr Cys Ile Phe Leu Pro Val Leu Lys Leu Asn His Leu Phe Val Leu
1          5          10          15

```

```

Ile Phe Val Ser Leu Ser Pro Cys Pro Gln Pro Val Ala Thr Thr Ile
20          25          30

```

```

Leu Leu Ser Val Ser Met Asn Leu Thr Thr Leu His Thr Ser Tyr Lys
35          40          45

```

```

Trp Arg His Thr Val Phe Tyr Gly Phe Leu Glu Ala Gly Ile Phe
50          55          60

```

```

<210> 61
<211> 64
<212> PRT
<213> Homo sapiens

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<400> 61
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```

Thr Ile Gly Gly Thr Leu Leu Gly Leu Ser Phe Leu Ile Cys Lys Ala
1          5          10          15

```

Leu Val Ile Leu Glu Ser Ser Ser His Phe Phe Val Asp Arg Arg Arg
 20 25 30

Gly Ser Gly Lys Lys Ala Tyr Ala Asn Lys Gln Pro Gln Gly Lys Pro
 35 40 45

Ala Ala Gly Ala Leu Pro Ser Trp Leu Arg Lys Leu Pro Leu Gly Arg
 50 55 60

<210> 62
 <211> 50
 <212> PRT
 <213> Homo sapiens

<400> 62

Trp Lys Asn Trp Leu Phe Phe Thr Cys Leu His Cys Thr Thr Pro His
 1 5 10 15

Asp Val Met Phe His Ile Leu Leu Lys Ile Pro Glu Phe His Glu Val
 20 25 30

Leu Gly Thr Cys His Ile Leu Gln Gly Leu Asn Lys Ile Val Phe Thr
 35 40 45

Leu Pro
 50

<210> 63
 <211> 36
 <212> PRT
 <213> Homo sapiens

<400> 63

Thr Trp Thr Pro Asp Gly Glu Ser Val Leu Arg Asp Pro Glu Gly Trp
 1 5 10 15

Glu His Trp Thr Pro Asp Gly Glu Ser Val Leu Arg Asp Pro Glu Gly
 20 25 30

Trp Glu His Trp
 35

<210> 64
 <211> 45
 <212> PRT
 <213> Homo sapiens

<400> 64

Arg Gln Glu Ala Leu Leu His His Val Ala Thr Ile Ala Asn Thr Phe
 1 5 10 15

Arg Ser His Arg Ala Ala Gln Arg Cys His Glu Asp Trp Lys Arg Leu
 20 25 30

Ala Arg Val Met Asp Arg Phe Phe Leu Ala Ile Phe Phe
 35 40 45

<210> 65
 <211> 24
 <212> PRT
 <213> Homo sapiens

<400> 65

His Cys Gln Leu Ser Pro Leu Pro Pro Gly Ile Phe Ser Ile Ser Cys
 1 5 10 15

Trp Leu Ser Lys Arg Trp Arg Pro
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<210> 66
 <211> 36
 <212> PRT
 <213> Homo sapiens

<400> 66

Gln Ser Trp Leu Asp Thr Arg Leu Ala Trp Asn Thr Ser Ala His Pro
 1 5 10 15

Arg His Ala Ile Thr Leu Pro Trp Glu Ser Leu Trp Thr Pro Arg Leu
 20 25 30

Thr Ile Leu Glu
 35

<210> 67
 <211> 24
 <212> PRT
 <213> Homo sapiens

<400> 67

Trp Asn Leu Glu Asp Asn Gly Gly Ile Asn Ala Phe Lys Ile Pro Ser
 1 5 10 15

Glu Asn Tyr Phe Gln Pro Arg Ile
 20

<210> 68
 <211> 38
 <212> PRT
 <213> Homo sapiens

<400> 68

Cys Leu Ser Leu Met Val Gly Ser Leu Leu Glu Thr Ile Phe Ile Thr
 1 5 10 15

His Leu Leu His Val Ala Thr Thr Gln Pro Pro Pro Leu Pro Arg Trp
 20 25 30

Leu His Ser Leu Leu Leu
 35

<210> 69
 <211> 89
 <212> PRT
 <213> Homo sapiens

<400> 69

Gly Glu Thr Asp Val Ile Tyr Leu Leu Ile Ile Cys Arg Lys Ile Thr
 1 5 10 15

Asn Ile Met Val Pro Cys Val Leu Ile Ser Gly Leu Val Leu Leu Ala
 20 25 30

Tyr Phe Leu Pro Ala Gln Ser Leu Gly Thr Ala Ala Pro Glu Ile Arg
 35 40 45

Cys Cys Gly Asp Ala Val Asn Phe Val Ala Lys Asn Met Arg Gly Gln
 50 55 60

Asp Thr Arg Gly Gln Asp Asp Gly Ile Cys Phe Trp Val Ala Arg Val
 65 70 75 80

Leu Phe Ser Leu Gly Ser Asn Leu Ile
 85

<210> 70
 <211> 29
 <212> PRT
 <213> Homo sapiens
 <400> 70

Asp Ser Thr Lys Ala Arg Pro Gln Lys Tyr Glu Gln Leu Leu His Ile
 1 5 10 15

Glu Asp Asn Asp Phe Ala Met Arg Pro Gly Phe Gly Gly
 20 25

<210> 71
 <211> 40
 <212> PRT
 <213> Homo sapiens
 <400> 71

Pro Asp Phe Arg Thr Asp Ser Phe Ser Val Arg Pro Thr Gln Ile Pro
 1 5 10 15

Val Gly Asn Leu Pro Phe Pro Cys Ala Thr Glu Cys Lys Glu Asn Ser
 20 25 30

Pro Lys Thr Ser Leu Thr Thr Leu
 35 40

<210> 72
 <211> 50
 <212> PRT
 <213> Homo sapiens
 <400> 72

Gly Asp Cys Arg Met Ala His Ala Glu Gln Lys Leu Met Asp Asp Leu
 1 5 10 15

Leu Asn Lys Thr Cys Tyr Asn Asn Leu Ile Arg Pro Ala Thr Ser Ser
 20 25 30

Ser Gln Leu Ile Ser Ile Gln Thr Ala Leu Ser Leu Ala Gln Cys Ile
 35 40 45

Ser Val
 50

<210> 73
 <211> 43
 <212> PRT
 <213> Homo sapiens
 <400> 73

Ala Glu Gln Lys Leu Met Asp Asp Leu Leu Asn Lys Thr Arg Tyr His
 1 5 10 15

Asn Leu Ile Arg Pro Ala Ala Ser Ser Ser Gln Leu Ile Ser Ile Glu
 20 25 30

Met Glu Leu Ser Leu Ala Gln Cys Ile Ser Val
 35 40

<210> 74
 <211> 51
 <212> PRT
 <213> Homo sapiens

<400> 74

Arg Gly Thr Ala Ala Trp Pro Met Pro Ser Arg Lys Leu Met Asp Asp
 1 5 10 15

Leu Leu Asn Lys Thr Cys Tyr Asn Asn Leu Ile Arg Pro Ala Thr Ser
 20 25 30

Ser Ser Gln Leu Ile Ser Ile Gln Thr Ala Leu Ser Leu Ala Gln Cys
 35 40 45

Ile Ser Val
 50

<210> 75
 <211> 45
 <212> PRT
 <213> Homo sapiens

<400> 75

Gly Lys Phe Thr Cys Ile Glu Val Lys Phe His Leu Glu Arg Gln Met
 1 5 10 15

Gly Tyr Tyr Leu Ile Gln Met Tyr Ile Pro Ser Leu Leu Ile Val Ile
 20 25 30

Leu Ser Trp Val Ser Leu Trp Ile Asn Met Asp Ala Ala
 35 40 45

<210> 76
 <211> 50
 <212> PRT
 <213> Homo sapiens

<400> 76

Val Ser Tyr Val Lys Ala Ile Asp Ile Trp Met Ala Val Cys Leu Leu
 1 5 10 15

Phe Val Phe Ala Ala Leu Leu Glu Tyr Ala Ala Ile Asn Phe Val Ser
 20 25 30

Arg Gln His Lys Glu Phe Ile Arg Leu Arg Arg Arg Gln Arg Arg Gln
 35 40 45

Arg Leu
 50

<210> 77
 <211> 28
 <212> PRT
 <213> Homo sapiens

<400> 77

Arg Leu Thr Leu Ile Leu Ser Cys Leu Met Asp Leu Lys Asn Phe Pro
1 5 10 15

Met Asp Ile Gln Thr Cys Thr Met Gln Leu Glu Ser
20 25

<210> 78
<211> 72
<212> PRT
<213> Homo sapiens

<400> 78

Ile Ser Leu Ser Ala Val Phe Leu Arg Gly Ser Leu Leu Lys Leu Trp
1 5 10 15

Leu Phe Ser Thr Gly Trp Tyr Asn Arg Leu Phe Ile Asn Phe Val Leu
20 25 30

Arg Arg His Val Phe Phe Phe Val Leu Gln Thr Tyr Phe Pro Ala Ile
35 40 45

Leu Met Val Met Leu Ser Trp Val Ser Phe Trp Ile Asp Arg Arg Ala
50 55 60

Val Pro Ala Arg Val Ser Leu Gly
65 70

<210> 79
<211> 159
<212> PRT
<213> Homo sapiens

<400> 79

Arg Cys Arg Pro Ser Pro Tyr Val Val Asn Phe Leu Val Pro Ser Gly
1 5 10 15

Ile Leu Ile Ala Ile Asp Ala Leu Ser Phe Tyr Leu Pro Leu Glu Ser
20 25 30

Gly Asn Cys Ala Pro Phe Lys Met Thr Val Leu Leu Gly Tyr Ser Val
35 40 45

Phe Leu Leu Met Met Asn Asp Leu Leu Pro Ala Thr Ser Thr Ser Ser
50 55 60

His Ala Ser Leu Val Arg Pro His Pro Ser Arg Asp Gln Lys Arg Gly
65 70 75 80

Val Cys Trp Met Gly Arg Gly Met Gly Arg Thr Arg Arg Ser Glu Lys
85 90 95

Gly Ser Trp Lys Lys Ile Leu Trp Glu Arg Asn Lys Lys Phe Val Ala
100 105 110

Pro Leu Ala Leu Met Gln Thr Pro Leu Pro Ala Gly Val Tyr Phe Ala
115 120 125

Leu Cys Leu Ser Leu Met Val Gly Ser Leu Leu Glu Thr Ile Phe Ile
130 135 140

Thr His Leu Leu Ala Arg Gly His His Pro Ala Pro Thr Ser Ala
145 150 155

<210> 80

<211> 60
 <212> PRT
 <213> Homo sapiens

<400> 80

Leu Ser Ser Ser Met Asp Val Asp Lys Thr Pro Lys Gly Leu Thr Ala
 1 5 10 15
 Tyr Val Ser Asn Glu Gly Arg Ile Arg Tyr Lys Lys Pro Met Lys Gly
 20 25 30
 Asp Ser Ile Cys Asn Leu Asp Ile Phe Tyr Phe Pro Phe Asp Gln Gln
 35 40 45
 Asn Cys Thr Leu Thr Phe Ser Ser Phe Leu Tyr Thr
 50 55 60

<210> 81
 <211> 33
 <212> PRT
 <213> Homo sapiens

<400> 81

Gln Glu Trp Ser Asp Tyr Lys Leu Arg Trp Asn Pro Thr Asp Phe Gly
 1 5 10 15
 Asn Ile Thr Ser Leu Lys Val Pro Ser Glu Met Ile Trp Ile Pro Asp
 20 25 30
 Ile

<210> 82
 <211> 58
 <212> PRT
 <213> Homo sapiens

<400> 82

Cys Pro Gly Val Ile Arg Arg His His Gly Gly Ala Thr Asp Gly Pro
 1 5 10 15
 Arg Glu Thr Asp Val Ile Tyr Ser Leu Ile Ile Leu Arg Lys Pro Leu
 20 25 30
 Phe Tyr Val Ile Asn Ile Ile Val Pro Cys Val Leu Ile Trp Gly Leu
 35 40 45
 Val Leu Leu Ala Tyr Phe Leu Pro Ala Gln
 50 55

<210> 83
 <211> 43
 <212> PRT
 <213> Homo sapiens

<400> 83

Arg Phe Leu Ile Phe Val Met Val Val Ala Thr Leu Ile Val Met Asn
 1 5 10 15
 Cys Val Ile Val Leu Asn Val Ser Gln Arg Thr Pro Thr Thr His Ala
 20 25 30
 Met Ser Pro Arg Leu Arg His Val Ser Ala Glu

35

40

<210> 84
 <211> 92
 <212> PRT
 <213> Homo sapiens

<400> 84

His Pro Asp Ser Lys Tyr His Leu Lys Lys Arg Ile Thr Ser Leu Ser
 1 5 10 15
 Leu Pro Ile Val Ser Ser Ser Glu Ala Asn Lys Val Leu Thr Arg Ala
 20 25 30
 Pro Ile Leu Gln Ser Thr Pro Val Thr Pro Pro Pro Leu Ser Pro Ala
 35 40 45
 Phe Gly Gly Thr Ser Lys Ile Asp Gln Tyr Ser Arg Ile Leu Phe Pro
 50 55 60
 Val Ala Phe Ala Gly Phe Asn Leu Val Tyr Trp Gly Ser Phe Ile Phe
 65 70 75 80

Pro Lys Ile Gln Trp Glu Val Ser Thr Ser Val Glu
 85 90

<210> 85
 <211> 61
 <212> PRT
 <213> Homo sapiens

<400> 85

Arg Ser Val Gly Val Glu Thr Gly Glu Thr Lys Lys Glu Gly Ala Ala
 1 5 10 15
 Arg Ser Gly Gly Gln Gly Gly Ile Arg Ala Arg Leu Arg Pro Met Asp
 20 25 30
 Ala Asp Thr Ile Asp Ile Asn Ala Arg Ala Val Phe Pro Ala Ala Phe
 35 40 45
 Ala Ala Val Asn Val Ile Tyr Trp Ala Ala Tyr Ala Met
 50 55 60

<210> 86
 <211> 132
 <212> PRT
 <213> Homo sapiens

<400> 86

Asn Cys Cys Glu Glu Ile Tyr Thr Asp Ile Thr Tyr Ser Phe Tyr Ile
 1 5 10 15
 Ile Arg Leu Pro Met Phe Tyr Thr Ile Asn Leu Ile Ile Pro Cys Leu
 20 25 30
 Phe Ile Ser Phe Leu Thr Val Leu Val Phe Tyr Leu Pro Ser Asp Cys
 35 40 45
 Gly Glu Lys Val Thr Leu Cys Ile Ser Val Leu Leu Ser Leu Thr Val
 50 55 60
 Phe Leu Leu Val Ile Thr Thr Ile Pro Ser Thr Ser Leu Val Gly Pro
 65 70 75 80

Leu Val Gly Glu Tyr Leu Leu Phe Thr Met Ile Phe Gly Thr Leu Ala
85 90 95

Ile Val Val Thr Val Phe Glu Leu Asn Ile His Tyr Arg Thr Pro Thr
100 105 110

Thr His Thr Met Pro Arg Trp Val Lys Thr Val Phe Leu Lys Leu Leu
115 120 125

Pro Gln Val Leu
130

<210> 87
<211> 70
<212> PRT
<213> Homo sapiens

<400> 87

Ser Pro Thr His Asp Glu His Leu Leu His Gly Gly Gln Pro Pro Glu
1 5 10 15

Gly Asp Pro Asp Leu Ala Lys Ile Leu Glu Glu Val Arg Tyr Ile Ala
20 25 30

Asn Arg Phe Arg Cys Gln Asp Glu Ser Glu Ala Val Cys Asn Glu Trp
35 40 45

Lys Phe Pro Ala Cys Val Val Asp Arg Leu Cys Leu Met Ala Phe Ser
50 55 60

Val Phe Thr Ile Ile Cys
65 70

<210> 88
<211> 42
<212> PRT
<213> Homo sapiens

<400> 88

Glu Ile Thr Asp Thr Ser Arg Lys Val Ile Gln Thr Gln Gly Glu Trp
1 5 10 15

Glu Leu Leu Gly Ile Asn Lys Ala Thr Pro Lys Met Ser Met Gly Asn
20 25 30

Asn Leu Tyr Asp Gln Ile Met Phe Tyr Val
35 40

<210> 89
<211> 38
<212> PRT
<213> Homo sapiens

<400> 89

Asp Leu Ser Cys Leu Leu Ile Cys Ser Ile Ile Ala Cys Leu Tyr Asn
1 5 10 15

Ile Asn Ile Ile Leu Pro Cys Leu Leu Arg Ser Leu Met Lys Val Ile
20 25 30

Leu Phe Ile Leu Ala Ser
35

<210> 90
 <211> 60
 <212> PRT
 <213> Homo sapiens

<400> 90

Phe Phe Ile Leu Leu Glu Asp Phe Ser Val Ser Ser Glu His Gly Leu
 1 5 10 15
 Ile Leu Gly Lys His Ser Ser Arg Ser Phe Met Pro Arg Phe Cys Ser
 20 25 30
 Phe Ile Cys Arg Leu Leu Pro Pro Cys His Phe Leu Pro Pro Pro Asn
 35 40 45
 Cys Glu Thr Ala Phe Ser Phe Leu Lys His Leu Trp
 50 55 60

<210> 91
 <211> 37
 <212> PRT
 <213> Homo sapiens

<400> 91

Gly Tyr Phe Leu Ser Leu Asp Cys Leu Ser Pro Asn Ile Phe Ile Ala
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 Ile Ser Leu Thr Phe Ile Ser Tyr Ser Cys Val Ser Tyr Ser Val Glu
 20 25 30
 Asn Leu Tyr Ser Pro
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<210> 92
 <211> 30
 <212> PRT
 <213> Homo sapiens

<400> 92

Phe Leu Asp Lys Val Leu Leu Glu His Ser His Asp His Ser Phe Met
 1 5 10 15
 Ala Ala Phe His Cys Asn Gly Gly Ile Glu Asp Ser Gly His
 20 25 30

<210> 93
 <211> 29
 <212> PRT
 <213> Homo sapiens

<400> 93

Ser Pro Gly Leu Ile Ser Val Ala Leu Phe Ser Ser Phe Gly Glu Val
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 Met Phe Ser Trp Met Ile Leu Ile Leu Val Asn Val Cys
 20 25

<210> 94
 <211> 31
 <212> PRT
 <213> Homo sapiens

<400> 94

Leu Ser Lys Glu Glu Thr Val Asp Asn Gly Glu Tyr Leu Leu Val Ser
 1 5 10 15

Ala Thr Pro Leu Lys Met Glu Tyr Thr Asn Ser His Cys Asp Phe
 20 25 30

<210> 95
 <211> 18
 <212> PRT
 <213> Homo sapiens

<400> 95

Trp Cys His Phe Ile Phe Tyr His Cys Ser Pro Asn Ser Pro Tyr Ile
 1 5 10 15

Ser Leu

<210> 96
 <211> 44
 <212> PRT
 <213> Homo sapiens

<400> 96

Ile Phe Asn Phe Lys Phe Phe Pro Leu Gln Asn Gln Lys Ile Ser Glu
 1 5 10 15

Thr Tyr Val Ala Ala Leu Tyr Asn Glu Val Glu His Ser Leu Glu Phe
 20 25 30

Arg Gln Ile Glu Leu Glu Asp Lys Thr Glu Leu Ser
 35 40

<210> 97
 <211> 43
 <212> PRT
 <213> Homo sapiens

<400> 97

Phe Leu Cys Ser Tyr Ser Cys Ser Pro Gln Leu His Ile Thr Ser Gly
 1 5 10 15

Asp Val Phe Trp Thr Ser Pro Gln Asp Gly Met Ile Gly Ser Gly Cys
 20 25 30

Ser Tyr Ile Pro Phe Ser Trp Val Arg Cys Ser
 35 40

<210> 98
 <211> 93
 <212> PRT
 <213> Homo sapiens

<400> 98

Gly His Ser Cys Ser Cys Pro Thr Val Ala Pro Asp Leu Gly Ile Ser
 1 5 10 15

Ala Leu Leu Gly Ala Gln Glu Val Pro Cys Pro His Trp Leu Arg Ile
 20 25 30

Gly Cys Ser Cys Pro Trp Ala Val Pro Ala Pro Val Gln Ser Glu Val
 35 40 45

Val Ala Lys Pro Arg Cys Tyr His Ser Leu Ala Arg Cys Ala Phe Ile
 50 55 60

Trp Gly Val Leu Thr His Gln Pro Pro Ala Thr Ser Ala Leu Ser Gly
 65 70 75 80

Leu Trp Ala Thr Thr Ser Met Arg Gly Arg Pro Gly Gly
 85 90

<210> 99
 <211> 67
 <212> PRT
 <213> Homo sapiens

<400> 99

Tyr Leu Arg Leu Ala Gln Ser Pro Arg Glu Ser Ser Glu Leu Glu Leu
 1 5 10 15

Glu Gly Ser Thr Trp Glu Arg Thr Arg Arg Gln Arg Ser Gly Ala Glu
 20 25 30

Ala Trp Glu Gln Thr His Gly Pro Arg His Pro Arg Ala Pro Pro Leu
 35 40 45

Tyr Pro Ala Arg Pro Ser Ser Leu Ala Pro Gly Cys Thr Ala Pro Ala
 50 55 60

Arg Ala Arg
 65

<210> 100
 <211> 32
 <212> PRT
 <213> Homo sapiens

<400> 100

Pro Ala Val Phe His Lys Tyr Tyr Ala Ser Phe Ile Val Val Tyr Phe
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Pro Phe Glu Glu Asn Asn Met Ser Phe Ala Ser Pro Pro Lys Thr His
 20 25 30

<210> 101
 <211> 20
 <212> PRT
 <213> Homo sapiens

<400> 101

Cys Thr Trp Ile Glu Pro Ser Ser Asp Met Pro Gln Phe Thr Leu Leu
 1 5 10 15

Asn Thr Ser Trp
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<210> 102
 <211> 43
 <212> PRT
 <213> Homo sapiens

<400> 102

Pro Gly Lys Ala Gln Arg Ser Asp Gly Asp Leu Ala Ser Cys Pro Arg
 1 5 10 15

Ser Ala Pro Pro Pro Pro Ile Ser Gly Phe Ser Leu His Thr Asn Gln
 20 25 30

Ala Glu Asn Ser Pro Leu Pro Thr Thr Pro His
 35 40

<210> 103
 <211> 66
 <212> PRT
 <213> Homo sapiens

<400> 103

Pro Pro Tyr Gln Val Leu Tyr Pro Gly Leu Phe Arg Phe Phe Ser Pro
 1 5 10 15

Ile Ser Val Leu Pro Gly Leu Ser Tyr Arg Val Asp Cys Cys Pro Ser
 20 25 30

Ser Leu Gly Ala Pro Gln Glu Leu Gln Asn Tyr Ser Ser Leu Thr Pro
 35 40 45

Tyr Ser Gln Leu Tyr Met Thr Thr Asn Asp His Ser Leu Lys Gln Asn
 50 55 60

Arg Gln
 65

<210> 104
 <211> 28
 <212> PRT
 <213> Homo sapiens

<400> 104

Pro Glu Gln Glu Asn Phe Thr His Ser Gly Asp Trp Glu Arg Val Glu
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Ala Arg Thr Trp Lys Glu Ala Thr Tyr Ser Arg Cys
 20 25

<210> 105
 <211> 90
 <212> PRT
 <213> Homo sapiens

<400> 105

Ser Ala Phe Pro Thr Glu Val Thr Ser Ser Ser His Trp Asp Trp Leu
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Asp Thr Gly Cys Ser Pro Gln Arg Ala Ser Gly Ser Arg Val Glu Cys
 20 25 30

His Val Pro Trp Glu Gly Gln Gly Val Arg Glu Leu Pro Pro Leu Ala
 35 40 45

Lys Arg Ser Pro Glu Gly Leu Cys His Glu Glu Gln Cys Ile Pro Ala
 50 55 60

Gln Ile Leu Pro Phe Ser His Gly Leu His Asn Pro Gln Thr Ser Arg
 65 70 75 80

Phe Pro Gln Val Pro Thr Pro Pro Gly Thr
 85 90

<210> 106
 <211> 37
 <212> PRT
 <213> Homo sapiens

<400> 106

Trp His Leu Ile Asn Tyr Ser Val Cys Ile Tyr Leu Ile Phe Ser Lys
 1 5 10 15

His Leu Lys Ile Leu Leu Phe Thr Leu Tyr Pro Ile Leu Asn Lys Val
 20 25 30

Ile Gln Asn Pro Cys
 35

<210> 107
 <211> 34
 <212> PRT
 <213> Homo sapiens

<400> 107

Arg Lys Ala Pro Ala Arg Val Leu Val Pro Thr Thr Lys Pro Met Gln
 1 5 10 15

Arg Ala Pro His Ala Arg Gly Trp Leu Thr Pro Leu Pro Ala Ala Ala
 20 25 30

His Arg

<210> 108
 <211> 68
 <212> PRT
 <213> Homo sapiens

<400> 108

Phe Val Ile Glu Leu Glu His Pro Glu Gly Arg Met Thr Pro Ile Trp
 1 5 10 15

Ser Lys Gly Leu Gln His Asp His Pro Gln Trp Gln Met Cys Leu Pro
 20 25 30

Gly Asn His Ala His Pro Thr Pro His Cys Phe Ser Ala His Thr Ala
 35 40 45

Pro Ile Cys Ser Asp Ser Gln Trp Arg Asp His Leu Leu Pro Arg Gly
 50 55 60

Met Asn His Cys
 65

<210> 109
 <211> 36
 <212> PRT
 <213> Homo sapiens

<400> 109

Leu Leu Phe Lys Glu Asn Asn Gly Trp Val Asp Glu Arg Glu Cys Gln
 1 5 10 15

Leu Asp Gln Gln Thr Ala Val Pro Thr Glu Val Leu Leu Ser Tyr Thr
 20 25 30

Ile Lys Gln Tyr
35

<210> 110
<211> 41
<212> PRT
<213> Homo sapiens

<400> 110

Trp Asn Trp Phe Pro Val Gln Gly Glu Phe Leu Pro Cys Ile Leu Ser
1 5 10 15

Cys Pro Asp Lys Leu Trp Leu Pro Ser Ile Leu Asn Trp Asn Asn Trp
20 25 30

Val Asn Asn Tyr Leu Thr Cys Phe Tyr
35 40

<210> 111
<211> 53
<212> PRT
<213> Homo sapiens

<400> 111

Ile Gln Arg Leu His Glu Val Asp Gln Val Asn Ile Pro Leu Trp Leu
1 5 10 15

Tyr Gln Asn Gly Gly Val Trp His Ile Arg His Leu Lys Ala Ala Gly
20 25 30

Pro Cys Val Asp Leu Gly Leu Tyr Ala Val Ser Asn Ala Val Cys Ile
35 40 45

Phe Glu Ser Phe Thr
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<210> 112
<211> 35
<212> PRT
<213> Homo sapiens

<400> 112

Tyr Gln Phe Thr Leu Leu Ile Gly Leu Ser Val Phe Leu Ile Leu Tyr
1 5 10 15

Thr Leu Ser Tyr Arg Leu Thr Ala Thr Cys Leu Gly Ile Pro Leu Met
20 25 30

Ser Ile Tyr
35

<210> 113
<211> 69
<212> PRT
<213> Homo sapiens

<400> 113

Ile Trp Leu Leu His Trp Ile Ser Asp Leu His Gly Ala Cys Ser Leu
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Phe Val Leu Ala Asn Phe Ser Tyr Leu Glu Trp Leu Tyr Phe Pro Asn
20 25 30

Ala Cys Thr Pro Ile Val Ser Arg Lys Tyr Asn Arg Tyr Val Leu Leu
 35 40 45

Ile Val Lys Ala Tyr Arg Gln Lys Gly Leu Ala Leu Ser Gln Met Arg
 50 55 60

Leu Thr Gln Thr Val
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<210> 114
 <211> 60
 <212> PRT
 <213> Homo sapiens

<400> 114

Cys Lys Ser Met Asp Pro Leu Ser Leu Ser Ala Phe Pro Cys Leu Ile
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Thr Asp Gly Leu Pro Gln Asn Gly Ala Arg Ile Glu Lys Gln Ile Thr
 20 25 30

Gln Ile His Ser Val Leu Gly Trp Val Cys Ser Asp Thr Cys Thr Ser
 35 40 45

Thr Gly Ala Ser Ala Gly Arg Ser Gly Leu Thr Glu
 50 55 60

<210> 115
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 <212> DNA
 <213> Homo sapiens

<400> 115

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<210> 116
<211> 471
<212> PRT
<213> Homo sapiens
<400> 116

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Pro Leu Ser Tyr Arg Glu His Arg Val Ala Leu Leu His Leu Thr His
20          25          30
Ser Met Ser Thr Thr Gly Arg Gly Val Thr Phe Thr Ile Asn Cys Ser
35          40          45
Gly Phe Gly Gln His Gly Ala Asp Pro Thr Ala Val Asn Ser Val Phe
50          55          60
Asn Arg Lys Pro Phe Arg Pro Val Thr Asn Ile Ser Val Pro Thr Gln
65          70          75          80
Val Asn Ile Ser Phe Ala Met Ser Ala Ile Leu Asp Val Asn Glu Gln
85          90          95
Leu His Leu Leu Ser Ser Phe Leu Trp Leu Glu Met Val Trp Asp Asn
100         105         110

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Pro Phe Ile Ser Trp Asn Pro Glu Glu Cys Glu Gly Ile Thr Lys Met
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 Ser Met Ala Ala Lys Asn Leu Trp Leu Pro Asp Ile Phe Ile Ile Glu
 130 135 140
 Leu Met Asp Val Asp Lys Thr Pro Lys Gly Leu Thr Ala Tyr Val Ser
 145 150 155 160
 Asn Glu Gly Arg Ile Arg Tyr Lys Lys Pro Met Lys Val Asp Ser Ile
 165 170 175
 Cys Asn Leu Asp Ile Phe Tyr Phe Pro Phe Asp Gln Gln Asn Cys Thr
 180 185 190
 Leu Thr Phe Ser Ser Phe Leu Tyr Thr Val Asp Ser Met Leu Leu Asp
 195 200 205
 Met Glu Lys Glu Val Trp Glu Ile Thr Asp Ala Ser Arg Asn Ile Leu
 210 215 220
 Gln Thr His Gly Glu Trp Glu Leu Leu Gly Leu Ser Lys Ala Thr Ala
 225 230 235 240
 Lys Leu Ser Arg Gly Gly Asn Leu Tyr Asp Gln Ile Val Phe Tyr Val
 245 250 255
 Ala Ile Arg Arg Arg Pro Ser Leu Tyr Val Ile Asn Leu Leu Val Pro
 260 265 270
 Ser Gly Phe Leu Val Ala Ile Asp Ala Leu Ser Phe Tyr Leu Pro Val
 275 280 285
 Lys Ser Gly Asn Arg Val Pro Phe Lys Ile Thr Leu Leu Leu Gly Tyr
 290 295 300
 Asn Val Phe Leu Leu Met Met Ser Asp Leu Leu Pro Thr Ser Gly Thr
 305 310 315 320
 Pro Leu Ile Gly Val Tyr Phe Ala Leu Cys Leu Ser Leu Met Val Gly
 325 330 335
 Ser Leu Leu Glu Thr Ile Phe Ile Thr His Leu Leu His Val Ala Thr
 340 345 350
 Thr Gln Pro Pro Pro Leu Pro Arg Trp Leu His Ser Leu Leu Leu His
 355 360 365
 Cys Asn Ser Pro Gly Arg Cys Cys Pro Thr Ala Pro Gln Lys Glu Asn
 370 375 380
 Lys Gly Pro Gly Leu Thr Pro Thr His Leu Pro Gly Val Lys Glu Pro
 385 390 395 400
 Glu Val Ser Ala Gly Gln Met Pro Gly Pro Ala Glu Ala Glu Leu Thr
 405 410 415
 Gly Gly Ser Glu Trp Thr Arg Ala Gln Arg Glu His Glu Ala Gln Lys
 420 425 430
 Gln His Ser Val Glu Leu Trp Leu Gln Phe Ser His Ala Met Asp Ala
 435 440 445
 Met Leu Phe Arg Leu Tyr Leu Leu Phe Met Ala Ser Ser Ile Ile Thr
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Val Ile Cys Leu Trp Asn Thr
465 470

<210> 117
<211> 1465
<212> DNA
<213> Homo sapiens

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<210> 118
<211> 357
<212> PRT
<213> Homo sapiens

<400> 118

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 20 25 30
 Thr Pro Ala Gly Leu Met Ala Ser Met Ser Ile Val Lys Ala Thr Ser
 35 40 45
 Asn Thr Ile Ser Gln Cys Gly Trp Ser Ala Ser Ala Asn Trp Thr Pro
 50 55 60
 Ser Ile Ser Pro Ser Met Asp Arg Gly Glu Arg Ser Pro Ser Ala Leu
 65 70 75 80
 Ser Pro Thr Gln Val Thr Arg Ala Trp Arg Arg Met Ser Arg Ser Phe
 85 90 95
 Gln Ile His His Arg Thr Ser Phe Arg Thr Arg Arg Glu Trp Val Leu
 100 105 110
 Leu Gly Ile Gln Lys Arg Thr Ile Lys Val Thr Val Ala Thr Asn Gln
 115 120 125
 Tyr Glu Gln Ala Ile Phe His Val Ala Ile Arg Arg Arg Cys Arg Pro
 130 135 140
 Ser Pro Tyr Val Val Asn Phe Leu Val Pro Ser Gly Ile Leu Ile Ala
 145 150 155 160
 Ile Asp Ala Leu Ser Phe Tyr Leu Pro Leu Glu Ser Gly Asn Cys Ala
 165 170 175
 Pro Phe Lys Met Thr Val Leu Leu Gly Tyr Ser Val Phe Leu Leu Met
 180 185 190
 Met Asn Asp Leu Leu Pro Ala Thr Ser Thr Ser Ser His Ala Ser Leu
 195 200 205
 Val Arg Val Tyr Phe Ala Leu Cys Leu Ser Leu Met Val Gly Ser Leu
 210 215 220
 Leu Glu Thr Ile Phe Ile Thr His Leu Leu His Val Ala Thr Thr Gln
 225 230 235 240
 Pro Leu Pro Leu Pro Arg Trp Leu His Ser Leu Leu Leu His Cys Thr
 245 250 255
 Gly Gln Gly Arg Cys Cys Pro Thr Ala Pro Gln Lys Gly Asn Lys Gly
 260 265 270
 Pro Gly Leu Thr Pro Thr His Leu Pro Gly Val Lys Glu Pro Glu Val
 275 280 285
 Ser Ala Gly Gln Met Pro Gly Pro Gly Glu Ala Glu Leu Thr Gly Gly
 290 295 300
 Ser Glu Trp Thr Arg Ala Gln Arg Glu His Glu Ala Gln Lys Gln His
 305 310 315 320
 Ser Val Glu Leu Trp Val Gln Phe Ser His Ala Met Asp Ala Leu Leu
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 Cys Leu Trp Asn Thr

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<210> 119
 <211> 7736
 <212> DNA
 <213> Homo sapiens

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